

SIRAL tested and delivered

Alcatel Space has delivered the SAR/Interferometric Radar Altimeter (SIRAL) instrument to EADS Astrium GmbH for integration on the CryoSat satellite, slated for a late March 2005 launch. The first mission of the Living Planet programme, started by the European Space Agency in 1999, CryoSat will study the Earth's ice fields.

The SIRAL altimeter is designed to measure the earth's diverse ice-fields, providing a highly accurate topography of this



Close-up of the SIRAL instrument during testing at Acatel in Toulouse, France.

variable environment. Understanding this is a key to understanding climate. The primary payload on CryoSat, SIRAL, is derived from the well-known Poseidon oceanographic altimeter. It will measure ice sheets at the poles to an unprecedented degree of accuracy, determining the changing mass of the polar ice, and give a precise picture of the rate of change in its thickness.

SIRAL weighs 70kgs. It combines low-resolution measurement giving conventional altimetric measurements, limited to relatively flat relief of continental ice-fields inland and at sea; with SAR mode to provide high-resolution measurement of floating sea-ice; and interferometric radar mode to study sharper reliefs, such as very active transition areas where ice fields adjoin the continental shelf.

Japan distributor for Anadigics

Anadigics Inc has appointed Takachiho Koheki Co Ltd, Tokyo, Japan, as its distributor. Japanese manufacturers remain leaders in the cutting-edge consumer electronics market as 3G systems and highly integrated multimedia phones continue to gain acceptance.

Takachiho is services provider to the electronics components industry, providing market development, distribution, and system integration services. Its main business includes,

exports, imports, sales, installations, and maintenance services including system designs and outsourcing services of system operations in the fields of information network systems, security systems, semiconductors, and structural precision parts.

Takachiho Koheki will use its extensive industry knowledge and robust network of sales offices to distribute Anadigics' complete line of wireless and broadband products to manufacturers throughout Japan.

All weather, precision radar

Lockheed Martin's Theatre Airborne Reconnaissance System (TARS) Synthetic Aperture Radar (SAR) has successfully performed, for the first time, aboard an operational F-16 at Edwards Air Force Base in California. TARS SAR is the first all weather, day and night, precision radar capability developed for tactical aircraft.

The test proved that TARS SAR could effectively receive, process and disseminate critical targeting information in real-time, using a solid-state digital system to record imagery, an airborne data-link to electronically relay information to ground stations, and a SAR capable of accurately locating targets anytime, day or night, in all weather conditions.

Microwave beam deterrent

A beam weapon that uses 95GHz energy to penetrate the skin to 1/64 of an inch, hitting water molecules to produce an intense burning sensation that stops when the transmitter is switched off or when the individual moves out of the beam, may be tested in Iraq this year.

The system includes a millimeter-wave energy source with waveguides to direct the energy to a dish antenna, measuring about 3x3m, which forms a beam that can be swept across a battlefield or hostile crowd. The beam has been reported to have a range of about 1km. After years of testing it has produced

no sign it will lead to health effects, beyond perhaps causing skin to temporarily redden, say senior military officials.

The 4 ton 'Active-Denial System,' has been under development for 11 years at the US Air Force Research Laboratory (Kirtland, NM) with the Marine Corps' Joint Nonlethal Weapons Directorate, at a cost of more than \$50m.

Researchers are now hoping to miniaturise it and Air Force officials want to work with the prime contractor, Raytheon Corp, to design a version that could be mounted on a military transport plane.

Stellar Micro Devices signs \$100,000 contract

Stellar Micro Devices Inc, which makes radio frequency amplifier chips, will develop high-power transistors for the US Naval Surface Warfare Center's crane division.

The contract falls under the US Missile Defense Agency's Small Business Technology Transfer programme and is a combined effort with the Massachusetts Institute of Technology. The project's first phase will focus on

gallium nitride and other types of vacuum microelectronic transistors that Stellar Micro Devices has been developing for the past several years.

Stellar Micro Devices develops high-performance cathodes and other products using vacuum microelectronics technology, which allows devices to operate at higher speeds and power. The company employs six people at 2020 Centimeter Circle in North Austin.

Remec faces class action lawsuit

New York's Milberg Weiss Bershad & Schulman LLP and San Diego's Lerach Coughlin Stoia Geller Rudman & Robbins LLP have filed class action lawsuits on behalf of purchasers of Remec Inc securities between September 8, 2003 and 2004.

Remec and Ronald Ragland (former CEO) and Winston Hickman (CFO) are facing allegations that the company issued quarter after quarter of improving financial results, including increasing profitability in the wireless division and filed regular reports with the SEC, certifying that Remec's

financial reporting was accurate and that the internal controls were adequate.

As a result, Remec stock traded nearly \$12/share during 2003.

In September this year, Remec announcing an enormous goodwill impairment charge of \$62.4m for its wireless division.

The company also revealed it had identified "potential control deficiencies" and that certain tax authorities were reviewing the Company's tax filings. As a result Remec stock dropped to only \$4.21/ share, losing more than 50% of its value.

SiGe for low noise LNA/DC

Q-Dot Incorporated, a Simtek Corp subsidiary, has been awarded a two-year, \$725,000 Phase II SBIR contract by the US Air Force.

Under the contract Q-Dot will develop a single-chip, 43.5-45.5GHz Low Noise Amplifier/Down Converter (LNA/DC) in IBM's advanced 8HP SiGe technology for use in phased array antennas for the Transformational Satellite.

Primary design goals for the LNA/DC include a maximum noise figure of 3dB and a nominal gain of 50dB. The single-chip implementation will reduce the size,

weight, and power of the LNA/DC compared to the multi-chip hybrid approaches currently used, which is critical for on-board satellite applications.

In addition to TSAT, the LNA/DC will directly benefit other future MILSATCOM systems operating in the 43.5-45.5GHz band.

The development will also serve as a launch pad into various wireless commercial applications such as Local Multipoint Distribution Service, Very Small Aperture Terminal and point-to-point millimeter-wave radio.

SiGe:C clock synthesiser

Freescale has developed the MPC92432 SiGe:C synthesiser in response to requests from high-availability server manufacturers for a fine-programmable device to drive the MPC9894 IDCS.

Freescale worked closely with key customers in the server and computing industry to develop this product. The device can be used in any system requiring an accurate, adjustable frequency.

The MPC92432 high-frequency synthesiser is an I2C-programmable clock source that gives designers the flexibility of using a single clock chip to generate clock frequencies from 21.25-1360MHz. The device delivers

cost-effective frequency margining capability to clock trees with low power consumption.

The synthesiser was designed as an ideal interface to the MPC9894 Intelligent Dynamic Clock Switch (IDCS) for a multiple-redundancy and frequency margining timing solution.

It uses Freescale's silicon-germanium-carbon (SiGe:C) technology to achieve exceptional price/performance in combination with low power consumption.

Manufactured at Freescale's MOS11 wafer fab in Austin, Texas the MPC92432 device is now available for sampling and is expected to be released into full production in 4Q, 2004.